



GDS Associates, Inc.  
Engineers and Consultants

**RENEWABLE ENERGY RESOURCES ELIGIBILITY**  
**GDS TEAM RECOMMENDATION**  
**For Consideration By The**  
**STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION**  
(Version 6 – August 20<sup>th</sup>, 2013)

**Date:** March 23, 2015

**Docket #:** 4541

**Generation Unit and Contact Information:**

*Unit Name:* Barker Mills Lower Project

*Unit Owner:* KEI (Maine) Power Management (III) LLC

*Unit Size (max. MW):* 1.35 *Location (city, state):* Auburn, ME

*Commercial Operation Date:* December 1980

*Contact Name, Numbers and Address:* Stephane Cohen, Jr. Engineer  
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CANADA

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**Application Received:**

**Date:** December 22, 2014

*Comments:*

**Type of Certification Requested:**

Standard Certification  Prospective Certification (Declaratory Judgment)

**Generation Type and Technology Information:** *(check all that apply)*

Repowered Project  Incremental Generation  Incremental Intermittent

Customer-Sited or Off-Grid System (or associated aggregations)

Generation Unit Located in Control Area Adjacent to NEPOOL:

Solar  Wind  Ocean Thermal  Geothermal  Small Hydro

Eligible Biomass  Unlisted Biomass  Biomass (fossil co-fired/multi-fuel)

Fuel Cell (using an eligible renewable resource)

**Recommendation:**

Approve (GIS Certification #: MSS 2278)  Reject  Public Hearing Needed

Existing Renewable Energy Resource  New Renewable Energy Resource  
 Capable of Producing as Both Existing & New Renewable Energy Resource

*Comments:* Current nameplate capacity is 1.5 MW, but system is being replaced, now out to bid, with a more efficient unit (1.35MW-1.6MW nameplate capacity unit capable of utilizing more water during low flow conditions & generating at all flows - up to design limits, more efficiently - 85% vs. 76%) that will result in material efficiency improvement and increased annual energy generation capability - Conditional approval recommended - Condition 1 = proof of commercial operation of new repowered unit, Condition 2 = documentation to verify the new nameplate rated capacity, Condition 3 = evidence that GIS system has been update to specify new nameplate rating. Following Commission confirmation and acceptance of conditions being met, 100% of the output from this repowered facility can be deemed eligible as a RI New Renewable Energy Resource.

**RENEWABLE ENERGY RESOURCES ELIGIBILITY**  
**DETAILED GDS TEAM APPLICATION REVIEW RESULTS**

(Template V5 – 11/15/11)

**Date of Final Review: 3/23/2015**

Note: Depending on the type of application (project vintage, type, location, fuel source, etc.) not all of these data items will be applicable.

A. Renewable Energy Resource – Vintage (*see appropriate Sections of RES Regulations, Application Sections 3.1-3.9 and Appendix C*):  
A.1 Generation Unit meets the definition of an Existing Renewable Energy Resource noted in RES Regulations Section 3.10 (first entering commercial operation before 12/31/1997).  Yes  No  
Comments: COD December of 1980

A.2 Generation from the Unit meets one of the definitions of New Renewable Energy Resource in RES Regulations Section 3.23.  Yes  No  N/A

Comments: Repowered generation unit - Section 3.23(iii)

- Sufficient documentation provided to verify that the Prime Mover of the facility's existing Generation Unit was completely replaced with a new Prime Mover
- Sufficient documentation provided to verify that a "material" increase in the existing Generation Unit's efficiency was achieved (over 15% increase in annual energy generation when compared against normalized flow during extended historical operating periods, due to 9% increase in turbine efficiency and new turbine's ability to capture generation from lower flow conditions). With and without applicant's drainage area: generation adjustment variable - percentage increase in generation ranges from 15.48% to 23.56% proposed new turbine vs. baseline, and 61.24% to 19.5% proposed new turbine vs. flow normalized historical generation.
- Sufficient documentation provided to verify that the capital expenditures made after December 31, 1997 to complete the repowered Generation Unit exceeded 80% of its resulting tax basis of the entire Generation Unit's plant and equipment)

A.2.1 If Generation Unit is at a new site, adequate documentation is provided to ensure that it first entered commercial operation after December 31, 1997.  Yes  No  N/A  
Comments:

A.2.2 If Generation Unit is at the site of an Existing Renewable Energy Resource, adequate documentation is provided to ensure that it first entered commercial operation after December 31, 1997 and that the Existing Renewable Energy Resource has been retired and replaced with such new Generation Unit.  Yes  No  N/A  
Comments:

A.2.3 If a Repowered Generation Unit (as defined in Section 3.29 of the RES Regulations – complete replacement of Prime Mover, material increase in efficiency or material decrease in air emissions, and demonstration that at least 80% of resulting tax basis of the entire Generation Unit’s plant and equipment is derived from capital expenditures made after December 31, 1997), adequate documentation is provided to ensure that the entire output of said unit first entered commercial operation after December 31, 1997 at the site of existing Generation Unit.  Yes  No  N/A

Comments: Attachment 3 in application - Project Description and

Capital Investments as Required by C.5 and C.11 - Provides CONFIDENTIAL documentation of all upgrades to the site and associated costs. Material increase in efficiency demonstrated, minimum 80% of resulting tax base requirement demonstrated, post 12/31/1997 commercial operation date demonstrated.

A.2.4 If a multi-fuel facility, adequate documentation is provided to ensure that the renewable energy fraction of output from a Generation Unit in which an Eligible Biomass Fuel is first co-fired with fossil fuels after December 31, 1997.  Yes  No  N/A

Comments:

A.2.5 If Incremental Output from a non-Intermittent Existing Renewable Energy Resource, adequate documentation is provided to ensure that such output is attributable to capital investments for efficiency improvements or additions of capacity that were demonstrably completed after December 31, 1997 and that are sufficient to, were intended to, and can be demonstrated to increase annual electricity output in excess of ten percent (10%) over a Historical Generation Baseline as determined per Section 3.23.v of the RES Regulations.  Yes  No  N/A

Comments:

A.2.6 If Incremental Output from an Intermittent Existing Renewable Energy Resource, adequate documentation is provided to ensure that such output is attributable to capital investments for efficiency improvements or additions of capacity that were demonstrably completed after December 31, 1997 and that are sufficient to, were intended to, and can be demonstrated to increase annual electricity output in excess of ten percent (10%) over a Historical Generation Baseline as determined per Section 3.23.vi of the RES Regulations.  Yes  No  N/A

Comments: Filing under Repowered Generation Unit criteria, however, Intermittent Resource: Attachments 3 and 4 included in Application - also confirm increased annual generation to result from capital investments for repowering will exceed 10%

B. Eligible Customer-Sited/Off-Grid Generation Facility:  Yes  No  
(see appropriate Sections of RES Regulations, Application Section 5 and Appendix D)

B.1 Adequate documentation provided to ensure that NEPOOL GIS Certificates are created by way of an aggregation of Generation Units, physically located in the State of Rhode Island, using the same generation technology (see RES Regulations Section 6.8.i).  Yes  No  
Comments: N/A

B.2 Proposed Aggregation Agreement (as specified in Section 6.8.iii of the RES Regulations) is reasonable and complete.  Yes  No  
Comments: N/A

B.2.1 Aggregation Agreement includes name and contact information of the aggregator owner.  Yes  No  
Comments: N/A

B.2.2 Aggregation Agreement includes name and contact information and adequate evidence of qualifications of the Verifier to ensure that the Verifier will accurately and efficiently carry out its duties.  Yes  No  
Comments: N/A

B.2.2.1 Additional evidence of Verifier qualifications requested and provided.  Yes  No  N/A  
Comments: N/A

B.2.3 Aggregation Agreement includes a declaration of any and all business or financial relations between aggregator and Verifier sufficient to ensure the independence of the Verifier in accordance with Section 6.8.iii.c of the RES Regulations (10% or more ownership in voting stock, or family officer/etc).  Yes  No  
Comments: N/A

B.2.3.1 Aggregation Agreement includes statement indicating under what circumstances the Verifier would not be considered sufficiently independent of the individual Generation Unit, and that Generation Units not meeting this independence test would not be allowed to participate in the aggregation.  Yes  No  
Comments: N/A

B.2.4 Aggregation Agreement identifies the type of technology that will be included in the aggregation and provides a statement that the aggregation will include only individual Generation Units that meet all the requirements of the RES Regulations (physical location, vintage, etc.).  Yes  No

Comments: N/A

B.2.5 Aggregation Agreement provides an adequate description of proposed operating procedures for the aggregation, by which the Verifier shall ensure that individual Generation Units in the aggregation comply with all eligibility requirements and that the NEPOOL GIS Certificates created accurately represent generation (see Section 6.8.iii.e of the RES Regulations).  Yes  No

Comments: N/A

B.2.5.1 At a minimum the proposed operating procedures include reasonable and sufficient details for:

- Determining that the Generation Unit exists and is in compliance with RES Regulations and Commission-approved Aggregation Agreement.  Yes  No
- Meter reading procedure that allows the Verifier to verify these readings (manual or remote, via the aggregators own system or an independent system) in a manner fully compliant with NEPOOL GIS Operating Rules regarding metering.  Yes  No
- Specifying how generation data will be entered into NEPOOL GIS to create Certificates.  Yes  No
- Documenting a procedure to verify independently that the GIS Certificates created for the aggregation are consistent with the meter readings.  Yes  No
- Correcting discrepancies in NEPOOL GIS Certificate generation identified by the Verifier.  Yes  No

Comments: N/A

B.2.6 Aggregation Agreement provides an adequate description of how the Verifier will be compensated for its services by the aggregator (in no instance is the Verifier is compensated in a manner linked to the number of NEPOOL GIS Certificates created by the aggregation).  Yes  No

Comments: N/A

C. Generation Unit Location (*see appropriate Sections of RES Regulations, Application Section 5 and Appendix E*):

C.1 Generation Unit is located in NEPOOL Control Area.  Yes  No  
Comments: 119 Mill Street, Auburn, ME 04210 - Latitude: 44.087963 /

Longitude: -70.226419

C.1.1 Generation Unit is located in Rhode Island.  Yes  No  
Comments:

C.2 Generation Unit is located in a control area adjacent to NEPOOL and, in accordance with Section 5.1.ii of the RES Regulations, will apply the associated Generation Attributes to the RES only to the extent that the energy produced by the Generation Unit is actually delivered into NEPOOL for consumption by New England customers.  Yes  No  
Comments:

C.2.1 Applicant acknowledges that satisfactory documentation (i.e., a report from neighboring Generation Attribute accounting system or an affidavit) must be provided to verify that Generation Attributes from a Generation Unit located in a control area adjacent to NEPOOL have not otherwise been, nor will be, sold, retired, claimed or represented as part of electrical energy output or sales, or used to satisfy obligations in jurisdictions other than Rhode Island (such assurances may consist of a report from a neighboring Generation Attribute accounting system or an affidavit from the Generation Unit)  Yes  No  
Comments: N/A

C.2.2 Applicant acknowledges that energy delivered from such Generation Unit into NEPOOL will be verified by the following:

- A unit-specific bilateral contract for the sale and delivery of such energy into NEPOOL
- Confirmation from ISO that the energy was actually settled in the ISO Market Settlement System, and
- Confirmation through the North American Reliability Council tagging system that the import of the energy into NEPOOL actually occurred, or such other requirements as the Commission deems appropriate

Yes  No  
Comments: N/A

D. Eligible Fuel Source – Solar, Wind, Ocean Thermal, Geothermal, or Fuel Cell (using an eligible renewable resource) (*see appropriate Sections of RES Regulations and Application Section 2.4*):  Yes  No  N/A  
Comments: Small hydro

E. Eligible Fuel Source – Small Hydro Facilities (*see appropriate Sections of RES Regulations and Application Sections 2.5-2.6*):  Yes  No  N/A

E.1 Aggregate capacity does not exceed 30 MW.  Yes  No  
Comments: 1.5 MW currently, with new unit to have nameplate rating of between 1.35 and 1.6 MW (currently out to bid), but with material increased efficiency and annual output capabilities.

E.2 If “New Renewable Energy Resource”, applicant acknowledges that facility does not involve any new impoundment or diversion of water with an average salinity of 20 parts per thousand or less.  Yes  No

Comments: N/A - repowering at site of existing renewable energy resource - no new empoundment or diversion of water required

F. Eligible Fuel Source – Biomass Facilities (*see appropriate Sections of RES Regulations, Application Sections 2.7 and Appendix F*):  Yes  No  N/A

F.1 Generation Unit uses a biomass fuel source listed in RES Regulations Section 3.7.  Yes  No

Comments: N/A

F.2 If source is other than RES Regulations Section 3.7-listed, said source has been designated as “clean wood”.  Yes  No

Comments: N/A

F.3 Fuel Source Plan can reasonably be expected to ensure that only Eligible Biomass Fuels will be used, and in the case of co-firing ensure that only that proportion of generation attributable to an Eligible Biomass Fuel be eligible.  Yes  No

Comments: N/A

F.3.1 Fuel Source Plan specifies the type of Eligible Biomass Fuel to be used.  Yes  No

Comments: N/A

F.3.2 If proposed fuel is “clean wood”, Fuel Source Plan provides adequate substantiation as to why the fuel source should be considered a clean wood.  Yes  No  N/A

Comments: N/A

F.3.3 In the case of co-firing with a fossil fuel, Fuel Source Plan includes an adequate description of how such co-firing will occur and how the relative amounts of Eligible Biomass Fuel and fossil fuel will be measured, and how the eligible portion of generation output will be calculated (with such calculations based on the energy content of the proposed fuels used).  Yes  No  N/A

Comments: N/A

F.3.4 Fuel Source Plan includes an adequate description of what measures will be taken to ensure that only the Eligible Biomass Fuel is used (e.g., standard operating protocols or procedures that will be implemented at the Generating Unit, contracts with fuel suppliers, testing or sampling regimes).  Yes  No

Comments: N/A

F.3.5 Fuel Source Plan includes adequate assurance that the fuels stored at or brought to the Generation Unit will only be Eligible Biomass Fuels or fossil fuels used for co-firing.  Yes  No  
Comments: N/A

F.3.6 If proposed fuel includes recycled wood waste, Fuel Source Plan provides adequate documentation to ensure that such fuel meets the definition of Eligible Biomass Fuel and also meets material separation, storage, or handling standards acceptable to the Commission and furthermore consistent with the RES Regulations.  Yes  No  N/A  
Comments: N/A

F.3.7 Applicant certifies that it will file all reports and other information necessary to enable the Commission to verify the on-going eligibility of the renewable energy generators pursuant to Section 6.3 of the RES Regulations.  Yes  No  N/A  
Comments: N/A

F.3.8 A copy of the Generation Unit's Valid Air Permit or equivalent authorization has been attached and the effective date and issuing state or jurisdiction has been identified.  Yes  No  N/A  
Comments: N/A

G. Other Comments/Observations: Asset ID #2278, GIS ID# MSS2278, Generation unit has been certified as a Renewable Energy Resource for eligibility in Connecticut's renewable portfolio standard (Documentation provided indicates this facility is qualified, in November 2005, as a Class II (existing) renewable energy source as a run-of-river hydroelectric facility). facility appears to meet requirements for RI conditional approval as a New Renewable Energy Resource - subject of confirmation that specific conditions have been met - achievement of commercial operation, verification of new nameplate capacity of Generating Unit, and confirmation that NEPOOL GIS has recorded new capacity of the facility consistent with Commission Order: